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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/756,183

01/13/2004

Alan D. Kersey

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36735 7590 06/13/2007  
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EXAMINER

BLEVINS, JERRY M

ART UNIT

PAPER NUMBER

2883

MAIL DATE

DELIVERY MODE

06/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/756,183

Applicant(s)

KERSEY ET AL.

Examiner

Jerry Martin Blevins

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,6,8,9 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,8,9,11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 6, 2007 has been entered.

### ***Response to Arguments***

Applicant's arguments, see pages 4-7, filed May 3, 2007, with respect to the rejection(s) of claim(s) 1, 3, 6, 8, 9, and 11 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly cited prior art reference, US 6,194,120 to Chan et al.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Chan.

Regarding claim 1, Chan teaches an optical sensor for sensing a measurand (Figures 1b and 2, abstract and column 8, lines 15-34, the measurand being electric field), comprising: an optical waveguide (30) having an outer cladding (50) and at least one inner core (40) disposed therein which propagates light (column 25, lines 39-57); and a D-shaped portion of the optical waveguide having a generally D-shaped cross-section (Figures 1b and 2), wherein a property of the D-shaped portion changes in response to the measurand, the property being polarization or birefringence (abstract, column 4, lines 6-14 and column 27, lines 13-26, the property being polarization); and a layer (60) disposed on a flat surface of the D-shaped portion, wherein a refractive index of the layer changes in response to a change in the measurand (column 25, line 65 – column 26, line 43).

Regarding claim 3, Chan teaches that the measurand includes at least one of the members of the group consisting of heat, humidity, light, electric field, magnetic field, and chemicals (column 8, lines 15-34, the measurand being electric field).

Regarding claim 6, Chan teaches that a transverse outer dimension of the waveguide is greater than 0.3 millimeters (column 26, lines 15-43).

Regarding claim 8, Chan teaches an optical sensor for sensing a measurand (Figures 1b and 2, abstract and column 8, lines 15-34, the measurand being electric field), comprising: a first D-shaped waveguide having a generally D-shaped cross-section (30); a second D-shaped waveguide having a generally D-shaped cross-section

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(280), wherein the first and second D-shaped waveguides are optically coupled together (column 27, lines 1-26) and wherein a property of at least one of the first and second D-shaped waveguides changes in response to the measurand, the property being polarization or birefringence (abstract, column 4, lines 6-14 and column 27, lines 13-26, the property being polarization); and a layer (24) disposed between the first and second D-shaped waveguides (Figure 5), the layer (260) capable of changing thickness in response to the measurand (column 25, line 65 – column 26, line 43), wherein the measurand includes at least one of the members of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals (column 8, lines 15-34).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan in view of U.S. Patent to Bergh, 4,386,822.

Regarding claim 9, Chan teaches the limitations of the base claim 8. Chan also teaches that the first D-shaped waveguide has at least one first inner core (40) disposed therein which propagates light and that second D-shaped waveguide has at least one second inner core (280) which propagates light. Chan does not teach that the

waveguides propagate light in substantially a few spatial modes. Bergh teaches an optical sensor comprising a D-shaped optical waveguide (Figure 2) wherein the waveguide propagates light in substantially a few spatial modes (column 1, lines 43-57). It would have been obvious to one of ordinary skill in the art at the time of the invention to propagate light through the waveguides of Chan in substantially a few spatial modes, as taught by Bergh. The motivation would have been to increase the bandwidth of the propagating light.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan in view of US 2002/0197037 to Bailey et al.

Regarding claim 11, Chan teaches the limitations of the base claim 8. Chan does not teach that the first and second D-shaped waveguides include a plurality of cores. Bailey teaches an optical sensor and sensing method comprising first and second D-shaped optical waveguides wherein the first and second D-shaped waveguides include a plurality of cores (Figures 20-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the multiple cores of Bailey in the waveguides of Chan. The motivation would have been to increase the number of waveguiding paths (Bailey, page 1, paragraph 9).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Frank G. Font  
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JMB